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1	BRS	L1	1010	705/26,27.ccls.	USPAT; EPO; DERWEN T	2003/08/27 14:33
2	BRS	L2	676	1 and (search or searches or find or finds or finding or searching)	USPAT; EPO; DERWEN T	2003/08/27 14:34
3	BRS	L3	1010	705/26,27.ccls.	USPAT; EPO; DERWEN T	2003/08/27 14:33
4	BRS	L4	27	705/26,27.ccls.	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:33
5	BRS	L5	1022	705/26,27.ccls.	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:34
6	BRS	L6	676	5 and (search or searches or find or finds or finding or searching)	USPAT; EPO; JPO; DERWEN T	2003/08/27 16:26
7	BRS	L7	0	6 and (inverse adj document)	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:35
8	BRS	L8	0	6 and inverse adj frequency	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:35
9	BRS	L9	105	6 and keyword\$1	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:35

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3			0
4			0
5			0
6			0
7			0
8			0
9			0

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11	BRS	L11	29968	(similar or identical or comparable) near (items or item or auction or auctions or lot or lots or product or products)	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:40
12	BRS	L12	89	11 and 6	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:39
13	BRS	L13	40515	(similar or identical or comparable) near2 (items or item or auction or auctions or lot or lots or product or products)	USPAT; EPO; JPO; DERWEN T	2003/08/27 14:40
14	BRS	L14	120	13 and 6	USPAT; EPO; JPO; DERWEN T	2003/08/27 15:10
15	BRS	L15	45	(determine or deterimes or determined or determining) adj key adj word\$1	USPAT; EPO; JPO; DERWEN T	2003/08/27 15:11
16	BRS	L17	7943	(item\$1 or product\$1 or auction\$1 or lot or lots) near2 (description or text)	USPAT; EPO; JPO; DERWEN T	2003/08/27 15:16
17	BRS	L18	9	15 and 17	USPAT; EPO; JPO; DERWEN T	2003/08/27 16:25

	Comments	Error Definition	Errors
10			0
11			0
12			0
13			0
14			0
15			0
16			0
17			0

	Type	L #	Hits	Search Text	DBs	Time Stamp
18	BRS	L19	360	705/37.ccls.	USPAT; EPO; JPO; DERWEN T	2003/08/27 16:25
19	BRS	L20	232	19 and (search or searches or find or finds or finding or searching)	USPAT; EPO; JPO; DERWEN T	2003/08/27 16:26
20	BRS	L21	24	20 and 13	USPAT; EPO; JPO; DERWEN T	2003/08/27 16:27
21	BRS	L22	341586 1	"24" not 14	USPAT; EPO; JPO; DERWEN T	2003/08/27 16:27
22	BRS	L23	13	21 not 14	USPAT; EPO; JPO; DERWEN T	2003/08/27 16:27

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18			0
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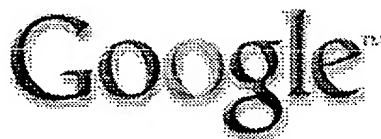
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r5ajc8d8-s5sm596v

SPM
8/21/03

Connecting via Winsock to Dialog

Logging in to Dialog

Trying 31060000009999...Open

DIALOG INFORMATION SERVICES

PLEASE LOGON:

ENTER PASSWORD:

Welcome to DIALOG

Dialog level 02.19.00D

Last logoff: 24aug03 13:31:20

Logon file405 27aug03 09:59:14

*** ANNOUNCEMENT ***

--File 654 - US published applications from March 15, 2001 to the present are now online. Please see HELP NEWS 654 for details.

--File 581 - The 2003 annual reload of Population Demographics is complete. Please see Help News581 for details.

--File 990 - NewsRoom now contains February 2003 to current records.
File 992 - NewsRoom 2003 archive has been newly created and contains records from January 2003. The oldest months's records roll out of File 990 and into File 992 on the first weekend of each month.
To search all 2003 records BEGIN 990, 992, or B NEWS2003, a new OneSearch category.

--Connect Time joins DialUnits as pricing options on Dialog.
See HELP CONNECT for information.

--SourceOne patents are now delivered to your email inbox as PDF replacing TIFF delivery. See HELP SOURCE1 for more information.

--Important news for public and academic libraries. See HELP LIBRARY for more information.

--Important Notice to Freelance Authors--
See HELP FREELANCE for more information

NEW FILES RELEASED

***World News Connection (File 985)

***Dialog NewsRoom - 2003 Archive (File 992)

***TRADEMARKSCAN-Czech Republic (File 680)

***TRADEMARKSCAN-Hungary (File 681)

***TRADEMARKSCAN-Poland (File 682)

UPDATING RESUMED

RELOADED

***Population Demographics -(File 581)

***CLAIMS Citation (Files 220-222)

REMOVED

>>> Enter BEGIN HOMEBASE for Dialog Announcements <<<
>>> of new databases, price changes, etc. <<<

CORE is set ON as an alias for

15,9,623,810,275,624,636,621,813,16,160,148,20,77,35,583,65,2,233,99,473,474,475,278
,634,256,348,349,347.

* * * * See HELP NEWS 225 for information on new search prefixes
and display codes

SYSTEM:HOME

Cost is in DialUnits

Menu System II: D2 version 1.7.9 term=ASCII

*** DIALOG HOMEBASE(SM) Main Menu ***

Information:

1. Announcements (new files, reloads, etc.)
2. Database, Rates, & Command Descriptions
3. Help in Choosing Databases for Your Topic
4. Customer Services (telephone assistance, training, seminars, etc.)
5. Product Descriptions

Connections:

6. DIALOG(R) Document Delivery
7. Data Star(R)

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/H = Help

/L = Logoff

/NOMENU = Command Mode

Enter an option number to view information or to connect to an online
service. Enter a BEGIN command plus a file number to search a database
(e.g., B1 for ERIC).

? b 410

27aug03 09:59:14 User264677 Session D36.1

\$0.00 0.157 DialUnits FileHomeBase

\$0.00 Estimated cost FileHomeBase

\$0.00 Estimated cost this search

\$0.00 Estimated total session cost 0.157 DialUnits

File 410:Chronolog(R) 1981-2003/Aug

(c) 2003 The Dialog Corporation

Set Items Description

? set hi ;set hi

HIGHLIGHT set on as ''

HIGHLIGHT set on as ''

? b core,47,635,570,PAPERSMJ,PAPERSEU

>>> 77 does not exist

>>> 278 does not exist

>>>2 of the specified files are not available

27aug03 10:00:45 User264677 Session D36.2

\$0.00 0.071 DialUnits File410

\$0.00 Estimated cost File410
\$0.46 TELNET
\$0.46 Estimated cost this search
\$0.46 Estimated total session cost 0.228 DialUnits

SYSTEM:OS - DIALOG OneSearch

File 15:ABI/Inform(R) 1971-2003/Aug 25
(c) 2003 ProQuest Info&Learning
*File 15: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.
File 9:Business & Industry(R) Jul/1994-2003/Aug 26
(c) 2003 Resp. DB Svcs.
File 623:Business Week 1985-2003/Aug 26
(c) 2003 The McGraw-Hill Companies Inc
File 810:Business Wire 1986-1999/Feb 28
(c) 1999 Business Wire
File 275:Gale Group Computer DB(TM) 1983-2003/Aug 26
(c) 2003 The Gale Group
File 624:McGraw-Hill Publications 1985-2003/Aug 26
(c) 2003 McGraw-Hill Co. Inc
*File 624: Homeland Security & Defense and 9 Platt energy journals added
Please see HELP NEWS624 for more
File 636:Gale Group Newsletter DB(TM) 1987-2003/Aug 26
(c) 2003 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Aug 26
(c) 2003 The Gale Group
File 813:PR Newswire 1987-1999/Apr 30
(c) 1999 PR Newswire Association Inc
File 16:Gale Group PROMT(R) 1990-2003/Aug 26
(c) 2003 The Gale Group
*File 16: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.
File 160:Gale Group PROMT(R) 1972-1989
(c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2003/Aug 26
(c)2003 The Gale Group
*File 148: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.
File 20:Dialog Global Reporter 1997-2003/Aug 27
(c) 2003 The Dialog Corp.
File 35:Dissertation Abs Online 1861-2003/Jul
(c) 2003 ProQuest Info&Learning
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 The Gale Group
*File 583: This file is no longer updating as of 12-13-2002.
File 65:Inside Conferences 1993-2003/Aug W4
(c) 2003 BLDSC all rts. reserv.
File 2:INSPEC 1969-2003/Aug W3
(c) 2003 Institution of Electrical Engineers
*File 2: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.
File 233:Internet & Personal Comp. Abs. 1981-2003/Jul
(c) 2003, EBSCO Pub.
File 99:Wilson Appl. Sci & Tech Abs 1983-2003/Jul
(c) 2003 The HW Wilson Co.
File 473:FINANCIAL TIMES ABSTRACTS 1998-2001/APR 02
(c) 2001 THE NEW YORK TIMES
*File 473: This file will not update after March 31, 2001.
It will remain on Dialog as a closed file.
File 474:New York Times Abs 1969-2003/Aug 26
(c) 2003 The New York Times
File 475:Wall Street Journal Abs 1973-2003/Aug 26

(c) 2003 The New York Times
 File 634:San Jose Mercury Jun 1985-2003/Aug 26
 (c) 2003 San Jose Mercury News
 File 256:SoftBase:Reviews,Companies&Prods. 82-2003/Jul
 (c)2003 Info.Sources Inc
 File 348:EUROPEAN PATENTS 1978-2003/Aug W03
 (c) 2003 European Patent Office
 File 349:PCT FULLTEXT 1979-2002/UB=20030821,UT=20030814
 (c) 2003 WIPO/Univentio
 File 347:JAPIO Oct 1976-2003/Apr(Updated 030804)
 (c) 2003 JPO & JAPIO
 *File 347: JAPIO data problems with year 2000 records are now fixed.
 Alerts have been run. See HELP NEWS 347 for details.
 File 47:Gale Group Magazine DB(TM) 1959-2003/Aug 18
 (c) 2003 The Gale group
 File 635:Business Dateline(R) 1985-2003/Aug 23
 (c) 2003 ProQuest Info&Learning
 File 570:Gale Group MARS(R) 1984-2003/Aug 26
 (c) 2003 The Gale Group
 File 387:The Denver Post 1994-2003/Aug 26
 (c) 2003 Denver Post
 File 471:New York Times Fulltext 90-Day 2003/Aug 26
 (c) 2003 The New York Times
 File 492:Arizona Repub/Phoenix Gaz 19862002/Jan 06
 (c) 2002 Phoenix Newspapers
 *File 492: Not updating. See instead File 990 for current
 articles from the Arizona Republic.
 File 494:St LouisPost-Dispatch 1988-2003/Aug 25
 (c) 2003 St Louis Post-Dispatch
 File 498:Detroit Free Press 1987-2003/Aug 26
 (c) 2003 Detroit Free Press Inc.
 File 631:Boston Globe 1980-2003/Aug 26
 (c) 2003 Boston Globe
 File 633:Phil.Inquirer 1983-2003/Aug 25
 (c) 2003 Philadelphia Newspapers Inc
 File 638:Newsday/New York Newsday 1987-2003/Aug 25
 (c) 2003 Newsday Inc.
 File 640:San Francisco Chronicle 1988-2003/Aug 27
 (c) 2003 Chronicle Publ. Co.
 File 641:Rocky Mountain News Jun 1989-2003/Aug 23
 (c) 2003 Scripps Howard News
 File 702:Miami Herald 1983-2003/Aug 24
 (c) 2003 The Miami Herald Publishing Co.
 File 703:USA Today 1989-2003/Aug 26
 (c) 2003 USA Today
 File 704:(Portland)The Oregonian 1989-2003/Aug 25
 (c) 2003 The Oregonian
 File 713:Atlanta J/Const. 1989-2003/Aug 24
 (c) 2003 Atlanta Newspapers
 File 714:(Baltimore) The Sun 1990-2003/Aug 26
 (c) 2003 Baltimore Sun
 File 715:Christian Sci.Mon. 1989-2003/Aug 27
 (c) 2003 Christian Science Monitor
 File 725:(Cleveland)Plain Dealer Aug 1991-2003/Aug 25
 (c) 2003 The Plain Dealer
 File 735:St. Petersburg Times 1989- 2003/Aug 24
 (c) 2003 St. Petersburg Times
 *File 735: This file is not updating. Last update: 20001019
 File 476:Financial Times Fulltext 1982-2003/Aug 27
 (c) 2003 Financial Times Ltd
 File 477:Irish Times 1999-2003/Aug 26
 (c) 2003 Irish Times

File 710:Times/Sun.Times(London) Jun.1988-2003/Aug 26
 (c) 2003 Times Newspapers
 File 711:Independent(London) Sep 1988-2003/Aug 26
 (c) 2003 Newspaper Publ. PLC
 *File 711: Use File 757 for full current day's news of the Independent, as
 as well as full coverage of many additional European news sources.
 File 756:Daily/Sunday Telegraph 2000-2003/Aug 27
 (c) 2003 Telegraph Group
 File 757:Mirror Publications/Independent Newspapers 2000-2003/Aug 27
 (c) 2003

Set Items Description

? s (similar or same or comparable) (w) (item or items)

Processing

Processed 10 of 54 files ...

Processing

Processed 20 of 54 files ...

Processing

Completed processing all files

6066678 SIMILAR
 14484881 SAME
 1246944 COMPARABLE
 1015879 ITEM
 2479149 ITEMS

S1 22263 (SIMILAR OR SAME OR COMPARABLE) (W) (ITEM OR ITEMS)

? s (search or searches or searching or find or finds or finding) (3w) s1

Processing

Processed 20 of 54 files ...

Completed processing all files

3529027 SEARCH
 304534 SEARCHES
 711931 SEARCHING
 7092203 FIND
 1100676 FINDS
 2103215 FINDING
 22263 S1

S2 345 (SEARCH OR SEARCHES OR SEARCHING OR FIND OR FINDS OR
 FINDING) (3W) S1

? s s2 and pd<=20000329

>>>File 15 processing for PD= : PD=20000329
 >>> started at PD=710000 stopped at PD=921013
 >>>File 9 processing for PD= : PD=20000329
 >>> started at PD=100305 stopped at PD=980606
 >>>File 810 processing for PD= : PD=20000329
 >>> started at PD=850116 stopped at PD=911125
 >>>File 275 processing for PD= : PD=20000329
 >>> started at PD=140103 stopped at PD=880908
 >>>File 624 processing for PD= : PD=20000329
 >>> started at PD=104 stopped at PD=920901
 >>>File 636 processing for PD= : PD=20000329
 >>> started at PD=19880101 stopped at PD=19940316
 Processing
 >>>File 621 processing for PD= : PD=20000329
 >>> started at PD=00000000 stopped at PD=19910208
 >>>File 813 processing for PD= : PD=20000329
 >>> started at PD=100000 stopped at PD=900919
 >>>File 16 processing for PD= : PD=20000329
 >>> started at PD=19900101 stopped at PD=19950623
 Processing
 Processed 10 of 54 files ...
 >>>File 160 processing for PD= : PD=20000329

```

>>> started at PD=2103 stopped at PD=770314
>>>File 148 processing for PD= : PD=20000329
>>> started at PD=140105 stopped at PD=830502
Processing
Processing
>>>One or more prefixes are unsupported
>>> or undefined in one or more files.
>>>File 583 processing for PD= : PD=20000329
>>> started at PD=100001 stopped at PD=881231
>>>File 99 processing for PD= : PD=20000329
>>> started at PD=DEC.1200 stopped at PD=19910204
Processed 20 of 54 files ...
>>>File 474 processing for PD= : PD=20000329
>>> started at PD=101111 stopped at PD=740309
>>>File 475 processing for PD= : PD=20000329
>>> started at PD=191111 stopped at PD=801119
>>>File 634 processing for PD= : PD=20000329
>>> started at PD=850602 stopped at PD=900910
Processing
>>>File 348 processing for PD= : PD=20000329
>>> started at PD=78 stopped at PD=990915
Processing
>>>File 347 processing for PD= : PD=20000329
>>> started at PD=197610 stopped at PD=19830411
>>>File 47 processing for PD= : PD=20000329
>>> started at PD=590100 stopped at PD=641107
>>>File 635 processing for PD= : PD=20000329
>>> started at PD=1190 stopped at PD=910602
Processing
>>>File 570 processing for PD= : PD=20000329
>>> started at PD=19840102 stopped at PD=19910623
Processed 30 of 54 files ...
>>>File 387 processing for PD= : PD=20000329
>>> started at PD=931204 stopped at PD=990407
>>>File 492 processing for PD= : PD=20000329
>>> started at PD=11/10/99 stopped at PD=910625
>>>File 494 processing for PD= : PD=20000329
>>> started at PD=2/7/2001 stopped at PD=930314
>>>File 498 processing for PD= : PD=20000329
>>> started at PD=12 stopped at PD=920321
>>>File 631 processing for PD= : PD=20000329
>>> started at PD=11/14/99 stopped at PD=850219
>>>File 633 processing for PD= : PD=20000329
>>> started at PD=830101 stopped at PD=880526
>>>File 638 processing for PD= : PD=20000329
>>> started at PD=25, stopped at PD=920403
>>>File 640 processing for PD= : PD=20000329
>>> started at PD=850209 stopped at PD=930324
Processing
>>>File 641 processing for PD= : PD=20000329
>>> started at PD=890523 stopped at PD=940812
>>>File 702 processing for PD= : PD=20000329
>>> started at PD=801018 stopped at PD=880307
Processed 40 of 54 files ...
>>>File 703 processing for PD= : PD=20000329
>>> started at PD=880531 stopped at PD=950911
>>>File 704 processing for PD= : PD=20000329
>>> started at PD=890101 stopped at PD=940327
>>>File 713 processing for PD= : PD=20000329
>>> started at PD=880117 stopped at PD=940307
>>>File 714 processing for PD= : PD=20000329
>>> started at PD=900903 stopped at PD=951211

```

>>>File 715 processing for PD= : PD=20000329
>>> started at PD=890103 stopped at PD=970325
>>>File 735 processing for PD= : PD=20000329
>>> started at PD=25UARY stopped at PD=950108

Processing

>>>File 476 processing for PD= : PD=20000329
>>> started at PD=19820102 stopped at PD=19881015
>>>File 710 processing for PD= : PD=20000329
>>> started at PD=880601 stopped at PD=930908

Processed 50 of 54 files ...

>>>File 711 processing for PD= : PD=20000329
>>> started at PD=880919 stopped at PD=940825

Completed processing all files

345 S2
27636269 PD<=20000329
S3 57 S2 AND PD<=20000329

? rd s3

>>>Duplicate detection is not supported for File 348.
>>>Duplicate detection is not supported for File 349.
>>>Duplicate detection is not supported for File 347.

>>>Records from unsupported files will be retained in the RD set.

>>>Record 702:2079735 ignored; incomplete bibliographic data, not retained
in RD set

...examined 50 records (50)

...completed examining records

S4 53 RD S3 (unique items)

viewed all 3,K

? s (online (w) shopping or online (w) auction or online (w) auctions)

Processing

Processed 10 of 54 files ...

Processing

Processed 30 of 54 files ...

Completed processing all files

4159960 ONLINE

2055897 SHOPPING

81079 ONLINE(W)SHOPPING

4159960 ONLINE

668978 AUCTION

35632 ONLINE(W)AUCTION

4159960 ONLINE

224168 AUCTIONS

21184 ONLINE(W)AUCTIONS

S5 128427 (ONLINE (W) SHOPPING OR ONLINE (W) AUCTION OR ONLINE (W) AUCTIONS)

? s s5 and (search or searching or look or looking or find or finding or finds or searches or looks) (3w) (item or items or lot or lots or auctions or auction)

Processing

Processed 10 of 54 files ...

Processing

Processed 20 of 54 files ...

Processing

Processed 30 of 54 files ...

Processing

Processed 40 of 54 files ...

Processing

Completed processing all files

128427 S5

3529027 SEARCH

711931 SEARCHING

7539061 LOOK

8306491 LOOKING

7092203 FIND

2103215 FINDING

1100676 FINDS

304534 SEARCHES

2526558 LOOKS

1015879 ITEM

2479149 ITEMS

6634746 LOT

1184485 LOTS

224168 AUCTIONS

668978 AUCTION

140778 ...

S6 4200 S5 AND (SEARCH OR SEARCHING OR LOOK OR LOOKING OR FIND OR FINDING OR FINDS OR SEARCHES OR LOOKS) (3W) (ITEM OR ITEMS OR LOT OR LOTS OR AUCTIONS OR AUCTION)

?

PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES

? s s6 and (similar or comparable or same or identical) (3n) (item or auction or auctions or items or lot or lots)

Processing

Processed 10 of 54 files ...

Processing

Processed 20 of 54 files ...

Processing

Processed 30 of 54 files ...

Processing

Processed 40 of 54 files ...

Completed processing all files

4200 S6
6066678 SIMILAR
1246944 COMPARABLE
14484881 SAME
777896 IDENTICAL
1015879 ITEM
668978 AUCTION
224168 AUCTIONS
2479149 ITEMS
6634746 LOT
1184485 LOTS

84642 (((SIMILAR OR COMPARABLE) OR SAME) OR
IDENTICAL) (3N) (((((ITEM OR AUCTION) OR AUCTIONS) OR
ITEMS) OR LOT) OR LOTS)
S7 349 S6 AND (SIMILAR OR COMPARABLE OR SAME OR IDENTICAL) (3N)
(ITEM OR AUCTION OR AUCTIONS OR ITEMS OR LOT OR LOTS)

? s s7 and pd<=20000329

>>>File 15 processing for PD= : PD=20000329
>>> started at PD=710000 stopped at PD=921013
>>>File 9 processing for PD= : PD=20000329
>>> started at PD=100305 stopped at PD=980606
>>>File 810 processing for PD= : PD=20000329
>>> started at PD=850116 stopped at PD=911125
>>>File 275 processing for PD= : PD=20000329
>>> started at PD=140103 stopped at PD=880908
>>>File 624 processing for PD= : PD=20000329
>>> started at PD=104 stopped at PD=920901
>>>File 636 processing for PD= : PD=20000329
>>> started at PD=19880101 stopped at PD=19940316

Processing

>>>File 621 processing for PD= : PD=20000329
>>> started at PD=00000000 stopped at PD=19910208
>>>File 813 processing for PD= : PD=20000329
>>> started at PD=100000 stopped at PD=900919
>>>File 16 processing for PD= : PD=20000329
>>> started at PD=19900101 stopped at PD=19950623

Processing

Processed 10 of 54 files ...

>>>File 160 processing for PD= : PD=20000329
>>> started at PD=2103 stopped at PD=770314
>>>File 148 processing for PD= : PD=20000329
>>> started at PD=140105 stopped at PD=830502

Processing

>>>One or more prefixes are unsupported

>>> or undefined in one or more files.

>>>File 583 processing for PD= : PD=20000329
>>> started at PD=100001 stopped at PD=881231

Processing

>>>File 99 processing for PD= : PD=20000329
>>> started at PD=DEC.1200 stopped at PD=19910204

Processed 20 of 54 files ...

>>>File 474 processing for PD= : PD=20000329
>>> started at PD=101111 stopped at PD=740309
>>>File 475 processing for PD= : PD=20000329
>>> started at PD=191111 stopped at PD=801119
>>>File 634 processing for PD= : PD=20000329
>>> started at PD=850602 stopped at PD=900910
>>>File 348 processing for PD= : PD=20000329
>>> started at PD=78 stopped at PD=990915

Processing

Processing

>>>File 347 processing for PD= : PD=20000329

```

>>> started at PD=197610 stopped at PD=19830411
>>>File 47 processing for PD= : PD=20000329
>>> started at PD=590100 stopped at PD=641107
>>>File 635 processing for PD= : PD=20000329
>>> started at PD=1190 stopped at PD=910602
>>>File 570 processing for PD= : PD=20000329
>>> started at PD=19840102 stopped at PD=19910623
Processed 30 of 54 files ...
>>>File 387 processing for PD= : PD=20000329
>>> started at PD=931204 stopped at PD=990407
Processing
>>>File 492 processing for PD= : PD=20000329
>>> started at PD=11/10/99 stopped at PD=910625
>>>File 494 processing for PD= : PD=20000329
>>> started at PD=2/7/2001 stopped at PD=930314
>>>File 498 processing for PD= : PD=20000329
>>> started at PD=12 stopped at PD=920321
>>>File 631 processing for PD= : PD=20000329
>>> started at PD=11/14/99 stopped at PD=850219
>>>File 633 processing for PD= : PD=20000329
>>> started at PD=830101 stopped at PD=880526
>>>File 638 processing for PD= : PD=20000329
>>> started at PD=25, stopped at PD=920403
>>>File 640 processing for PD= : PD=20000329
>>> started at PD=850209 stopped at PD=930324
>>>File 641 processing for PD= : PD=20000329
>>> started at PD=890523 stopped at PD=940812
Processed 40 of 54 files ...
>>>File 702 processing for PD= : PD=20000329
>>> started at PD=801018 stopped at PD=880307
Processing
>>>File 703 processing for PD= : PD=20000329
>>> started at PD=880531 stopped at PD=950911
>>>File 704 processing for PD= : PD=20000329
>>> started at PD=890101 stopped at PD=940327
>>>File 713 processing for PD= : PD=20000329
>>> started at PD=880117 stopped at PD=940307
>>>File 714 processing for PD= : PD=20000329
>>> started at PD=900903 stopped at PD=951211
>>>File 715 processing for PD= : PD=20000329
>>> started at PD=890103 stopped at PD=970325
>>>File 735 processing for PD= : PD=20000329
>>> started at PD=25UARY stopped at PD=950108
>>>File 476 processing for PD= : PD=20000329
>>> started at PD=19820102 stopped at PD=19881015
Processing
Processed 50 of 54 files ...
>>>File 710 processing for PD= : PD=20000329
>>> started at PD=880601 stopped at PD=930908
>>>File 711 processing for PD= : PD=20000329
>>> started at PD=880919 stopped at PD=940825
Completed processing all files
349 S7
27636269 PD<=20000329
S8 43 S7 AND PD<=20000329
? rd s8
>>>Duplicate detection is not supported for File 348.
>>>Duplicate detection is not supported for File 349.
>>>Duplicate detection is not supported for File 347.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records

```

S9
? t s9/3,k/1

38 RD S8 (unique items)

viewed all 3,K

? s inverse (w) frequency and search???

Processing

Processed 20 of 54 files ...

Completed processing all files

235271 INVERSE

1915355 FREQUENCY

343 INVERSE(W)FREQUENCY

4314434 SEARCH???

S10 148 INVERSE (W) FREQUENCY AND SEARCH???

? s s10 and pd<=20000329

>>>File 15 processing for PD= : PD=20000329

>>> started at PD=710000 stopped at PD=921013

>>>File 9 processing for PD= : PD=20000329

>>> started at PD=100305 stopped at PD=980606

>>>File 810 processing for PD= : PD=20000329

>>> started at PD=850116 stopped at PD=911125

>>>File 275 processing for PD= : PD=20000329

>>> started at PD=140103 stopped at PD=880908

>>>File 624 processing for PD= : PD=20000329

>>> started at PD=104 stopped at PD=920901

Processing

>>>File 636 processing for PD= : PD=20000329

>>> started at PD=19880101 stopped at PD=19940316

>>>File 621 processing for PD= : PD=20000329

>>> started at PD=00000000 stopped at PD=19910208

>>>File 813 processing for PD= : PD=20000329

>>> started at PD=100000 stopped at PD=900919

>>>File 16 processing for PD= : PD=20000329

>>> started at PD=19900101 stopped at PD=19950623

Processing

Processed 10 of 54 files ...

>>>File 160 processing for PD= : PD=20000329

>>> started at PD=2103 stopped at PD=770314

>>>File 148 processing for PD= : PD=20000329

>>> started at PD=140105 stopped at PD=830502

Processing

>>>One or more prefixes are unsupported

>>> or undefined in one or more files.

>>>File 583 processing for PD= : PD=20000329

>>> started at PD=100001 stopped at PD=881231

Processing

>>>File 99 processing for PD= : PD=20000329

>>> started at PD=DEC.1200 stopped at PD=19910204

Processed 20 of 54 files ...

>>>File 474 processing for PD= : PD=20000329

>>> started at PD=101111 stopped at PD=740309

>>>File 475 processing for PD= : PD=20000329

>>> started at PD=191111 stopped at PD=801119

>>>File 634 processing for PD= : PD=20000329

>>> started at PD=850602 stopped at PD=900910

>>>File 348 processing for PD= : PD=20000329

>>> started at PD=78 stopped at PD=990915

Processing

Processing

>>>File 347 processing for PD= : PD=20000329

>>> started at PD=197610 stopped at PD=19830411

>>>File 47 processing for PD= : PD=20000329

>>> started at PD=590100 stopped at PD=641107

>>>File 635 processing for PD= : PD=20000329

>>> started at PD=1190 stopped at PD=910602

>>>File 570 processing for PD= : PD=20000329

>>> started at PD=19840102 stopped at PD=19910623

```

Processed 30 of 54 files ...
>>>File 387 processing for PD= : PD=20000329
>>> started at PD=931204 stopped at PD=990407
Processing
>>>File 492 processing for PD= : PD=20000329
>>> started at PD=11/10/99 stopped at PD=910625
>>>File 494 processing for PD= : PD=20000329
>>> started at PD=2/7/2001 stopped at PD=930314
>>>File 498 processing for PD= : PD=20000329
>>> started at PD=12 stopped at PD=920321
>>>File 631 processing for PD= : PD=20000329
>>> started at PD=11/14/99 stopped at PD=850219
>>>File 633 processing for PD= : PD=20000329
>>> started at PD=830101 stopped at PD=880526
>>>File 638 processing for PD= : PD=20000329
>>> started at PD=25, stopped at PD=920403
>>>File 640 processing for PD= : PD=20000329
>>> started at PD=850209 stopped at PD=930324
>>>File 641 processing for PD= : PD=20000329
>>> started at PD=890523 stopped at PD=940812
Processed 40 of 54 files ...
>>>File 702 processing for PD= : PD=20000329
>>> started at PD=801018 stopped at PD=880307
Processing
>>>File 703 processing for PD= : PD=20000329
>>> started at PD=880531 stopped at PD=950911
>>>File 704 processing for PD= : PD=20000329
>>> started at PD=890101 stopped at PD=940327
>>>File 713 processing for PD= : PD=20000329
>>> started at PD=880117 stopped at PD=940307
>>>File 714 processing for PD= : PD=20000329
>>> started at PD=900903 stopped at PD=951211
>>>File 715 processing for PD= : PD=20000329
>>> started at PD=890103 stopped at PD=970325
>>>File 735 processing for PD= : PD=20000329
>>> started at PD=25UARY stopped at PD=950108
>>>File 476 processing for PD= : PD=20000329
>>> started at PD=19820102 stopped at PD=19881015
Processed 50 of 54 files ...
>>>File 710 processing for PD= : PD=20000329
>>> started at PD=880601 stopped at PD=930908
Processing
>>>File 711 processing for PD= : PD=20000329
>>> started at PD=880919 stopped at PD=940825
Completed processing all files
      148 S10
      27636269 PD<=20000329
      S11      64 S10 AND PD<=20000329
? rd s11
>>>Duplicate detection is not supported for File 348.
>>>Duplicate detection is not supported for File 349.
>>>Duplicate detection is not supported for File 347.

>>>Records from unsupported files will be retained in the RD set.
...examined 50 records (50)
...completed examining records
      S12      64 RD S11 (unique items)
? s s12 and amazon
      64 S12
      208224 AMAZON
      S13      0 S12 AND AMAZON

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4/3,K/27 (Item 1 from file: 348)
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METHOD AND SYSTEM FOR EXECUTING A GUIDED PARAMETRIC SEARCH
VERFAHREN UND SYSTEM ZUM DURCHFUEHREN EINER GEFUEHRTEN UND PARAMETRISIERTEN
SUCHE

PROCEDE ET SYSTEME D'EXECUTION D'UNE RECHERCHE PARAMETRIQUE GUIDEE

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FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200307	1086
CLAIMS B	(German)	200307	1139
CLAIMS B	(French)	200307	1178
SPEC B	(English)	200307	10895
Total word count - document A			0
Total word count - document B			14298
Total word count - documents A + B			14298

...SPECIFICATION Number Information Menu and user deselection, the user,
starting with a single part, may easily **find a similar**
item by deselecting one or more of the selected alternatives 37.

TRIGGER ALTERNATIVE AND DEPENDANT GROUPING...

Notes
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ABSTRACT:

An online communication schema for communicating online vehicle orders is provided. The communication schema includes a customer request message, which includes an order message having order information, contact information and vehicle configuration. The order message includes a fleet order message, a retail order message, and a tagged order message. The communication schema further includes a lead message having lead information, contact information, vehicle configuration, and dealer information. The communication schema further includes an order confirmation message.

36 Claims, 47 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 40

----- KWIC -----

Brief Summary Text - BSTX (5):

Accordingly, many retailers have established "electronic store fronts" to offer all kinds of products ranging from clothes and groceries to computers and automobiles. Conventional electronic store fronts, however, are often modeled after traditional catalogs and are limited in the information disseminated to the consumer. With typical electronic store fronts, for example, a consumer is prompted to search for a desired product by entering one or more keywords. A search result of relevant items is then displayed along with a product description and price. The customer then places the desired items in an "electronic shopping cart," which the customer uses to place an order with the on-line merchant. If an item is not in the merchant's inventory, the customer is informed either immediately or within a prescribed period of time. If the customer is dissatisfied or unwilling to wait or desires to purchase the item elsewhere, the customer then returns to the store front or calls the on-line merchant to cancel or change the order.

Brief Summary Text - BSTX (7):

A shortcoming of conventional systems, however, is that product status and tracking information is available only after an order is placed. No information is available to the consumer, prior to the placement of the order, relating to the availability or status of a matching or similar configured product already in the product's manufacturing and delivery process or so-called "product pipeline." For example, conventional systems do not provide real-time information relating to inventory, in-transit stock, scheduled and unscheduled orders, etc., that may influence the consumer's decision to order or not order the configured product. Such information

may be important to a consumer who may choose to select or not select a particular option because of a lack of inventory or delay in scheduled production. Also, in cases where time is of the essence, such information may be used to notify a customer that the configured product is not readily available. A new order can therefore be placed or a preexisting one updated without the customer having to cancel a previously submitted order. The availability of status and tracking information, prior to the placement of an order by the consumer, can therefore be used to minimize the risk that the customer will become inconvenienced and dissatisfied with the merchant's on-line ordering services.

Drawing Description Text - DRTX (14):

FIG. 12 is a diagram of an embodiment of a search request message schema according to the teachings of the present invention;

Drawing Description Text - DRTX (15):

FIG. 13 is a diagram of an embodiment of a search result message schema according to the teachings of the present invention;

Detailed Description Text - DETX (3):

FIG. 1 is a flow diagram of a preferred method for ordering and tracking consumer products. As shown in FIG. 1, a consumer desiring to purchase a product first selects and configures the product as desired based upon available product features or options, as shown in block 10. Dealer inventory and "in-process" product inventory are then searched to locate products that matched or substantially matched the consumer selected product configuration, as shown in block 20. An in-process product is defined as a product that is on the order bank to be manufactured, a product in the manufacturing process, or a product that is in transit to the retail outlet or

dealerships. If no matching or otherwise acceptable at-dealer or in-process product can be located, then the consumer is provided the option to order the configured product, as shown in block 30. If a matching or similar product is located, then the located product is "tagged" or designated for purchase and/or delivery to the consumer. The consumer is then notified that a product has been located and tagged, and may be further notified that the actual purchase or delivery of such product may be conditioned, for example, upon payment or credit verification. The consumer may be warned that there is a possibility that the vehicle has been tagged or sold to someone who may have purchased the vehicle prior to the consumer's effort to locate and tag the vehicle. This may occur due to lag time in updating the inventory databases. The consumer is then provided an estimated product delivery date. Real-time status and tracking information regarding the progress of the ordered or tagged through the product pipeline is also provided, as shown in block 40.

Detailed Description Text - DETX (7):

FIG. 3 is a block diagram of a preferred embodiment of a system 310 for product ordering and tracking in accordance with the teachings of the present invention. Although the system 310 is shown as a web-based system for ordering and tracking custom vehicles, the system 310 may be modified as known and understood by those of skill in the art for ordering and tracking various other consumer products over any intranet, extranet or other suitable type of communications network. System 310 in particular provides on-line customers the ability to enter vehicle search criteria, and search for the vehicle in the dealership inventory and in-process. If the search does not yield a vehicle satisfying the search criteria, then a customer may search for near-match

vehicles or place a custom order for the desired vehicle.

In this way, the customer is provided immediate feedback as to the availability of the vehicle not only in inventory but also in the pipeline at the manufacturer leading to the dealer. The customer is also afforded satisfactory alternatives that lead to the completion of a sale.

Detailed Description Text - DETX (11):

After the on-line consumer selects the vehicle make and model, configurations and options, he/she may submit the vehicle selection and perform a search in inventory to determine if one is currently available. Inventory database 322 receives its data from an inventory importer 328, which obtains inventory data from dealers 330 for their current inventory. Dealers 330 may also represent any sales entity that has an inventory of products for sale or lease to the public or to businesses. Inventory importer 328 further obtains data from an inventory packager 368 within the enterprise mainframe and data center 360 of the manufacturer for data on vehicles in-transit from the manufacturing plant to the dealers, in manufacturing, and on the order bank. Therefore the entire product pipeline is searched for a match or a near match, if so desired. If no match or near match is found, the consumer may place a custom order for the vehicle. Inventory importer 328 is responsible for obtaining the relevant data from one or more sources, reformatting the data as necessary, and storing the data in inventory database 322.

Detailed Description Text - DETX (16):

FIG. 4 is a simplified flowchart of an embodiment of the web-based custom vehicle tracking and ordering process 400 according to the teachings of the present invention. A user accesses a World Wide Web web page, as shown in

block 402. The consumer is then able to enter or select from pull-down lists or other types of lists the vehicle make, model, color, configurations and options, as shown in block 404. System 310 of the present invention then searches for vehicles matching the entered criteria in dealership inventory and in-process. Two alternate methods of searching and locating a matching vehicle are shown in FIGS. 4A-4B and FIG. 5.

Detailed Description Text - DETX (17):

Referring to block 106 in FIG. 4A, the system begins by first searching in dealership inventory. The search may be performed by accessing inventory database 322. If a vehicle is not found, system 310 then searches database 322 for matching vehicles that are in-transit, as shown in block 408. If a vehicle is not found, then system 310 searches inventory database 322 for vehicles that are in-plant being manufactured, assembled, etc., as shown in block 410. If such a vehicle is still not located, then system 310 searches for a matching vehicle that is on the order bank to be constructed, as shown in block 412. All vehicles matching the search criteria are displayed, as shown in block 414. If no vehicle matching the criteria is located, then near matches are searched in inventory database 322 if so instructed by the consumer, as shown in block 416.

Detailed Description Text - DETX (18):

Referring to FIG. 5, an alternate method 430 of searching for and locating a vehicle matching or substantially matching the entered criteria is shown. Similarly, the consumer accesses the system via portal web pages, and enters desired vehicle configuration and options, as shown in blocks 432 and 434. Dealership inventory and in-process vehicles are searched for a match or near match, as shown in block 436. In block 438, all found

vehicles are sorted according to how closely it matched the entered search criteria, from highest percentage to lowest percentage. The vehicles may further be sorted by status, for example, in-inventory vehicles are grouped together, in-transit vehicles are grouped together, etc. The sorted found vehicles are then displayed to the consumer, as shown in block 440.

Detailed Description Text - DETX (19):

Returning to FIG. 4B, if no match or near match is found, if the consumer does not want to search for near matches, or the consumer is not satisfied with any found vehicle in the search result, the consumer may indicate that he/she desires to place a custom order, as shown in block 418. If the consumer does not desire to place a custom order at this time, then the vehicle selection criteria may be saved in a database, such as prospective buyer database 336, as shown in blocks 420 and 422. The process ends in block 424.

Detailed Description Text - DETX (20):

If, on the other hand, the search located a vehicle matching or nearly matching the selection criteria, the consumer may "tag" or place a "hold" on the vehicle, as shown in block 440. In order to reserve a vehicle, the consumer is asked to provide credit and/or other financial information, as shown in block 442. Typically, a consumer is asked to provide a credit card account number from which a predetermined amount or a certain percentage of the vehicle price is charged to hold the selected vehicle. Alternatively, the consumer may opt to merely save the vehicle configuration and option selection and postpone the purchasing decision until later, as shown in block 420.

Detailed Description Text - DETX (21):

In block 444, after the consumer has decided to hold a vehicle and have provided the credit information, a summary of the selected vehicle and the transaction may be displayed to the consumer. This page may be saved or printed by the consumer as a receipt. In block 446, a vehicle delivery schedule projection may be displayed. The vehicle delivery schedule may indicate that the vehicle is immediately available if it is currently on the lot of a dealership or in two months in the case of a custom order, for example. This step may also be performed simultaneously with the search result information in block 414. The consumer may further select a means of reporting the vehicle delivery status and a frequency for the report, as shown in block 448. For example, the consumer may elect to receive status update reports via email, facsimile, or a web page. The status update reports may further provide an updated delivery date, if it is changed from the original date due to changes in the manufacturing or transportation schedule. The process ends in block 424.

Detailed Description Text - DETX (23):

Referring to FIGS. 7A-7C, a more detailed block diagram of an embodiment of the web-based custom vehicle ordering and tracking system 600 according to the teachings of the present invention is shown. System 600 includes multiple web sites or portals, such as BuyerConnection.com.TM. 602 and Fleet.com.TM. 604, which provide an online interface to consumers 601 and fleet consumers 603 via the Internet. These portals or web sites communicate with a web server 605, which processes consumer requests and generates responses thereto. For example, a consumer 601 may select a number of options and features for the product (an automobile, for example). A configuration engine 606 and configuration/pricing database 608 are used to provide

product configuration and pricing information. The consumer may then submit a search request to BuyerConnection.com 602 to locate a vehicle with the selected options and features in dealer inventory, in-transit, in production, or on the order banks. BuyerConnection.com then generates a locate request and sends it to web server 605 (L1). In one embodiment of the present invention, the locate request is an XML (extended markup language) message, that specifies a set of desired vehicle attributes or criteria, the relative importance of each criterion, and the type of information to be returned by the search. For example, the response may be a summary of a list of vehicles or detailed information of a few selected vehicles. Web server 605 routes the search request to a locate inventory process 610, which is responsible for locating the product which matches or nearly matches the search criteria submitted by the consumer.

Detailed Description Text - DETX (24):

Locate inventory process 610 accesses an inventory database 612, which contains the updated inventory data at all the dealerships and products in-process (in-transit, in production, and on the order bank). An inventory data importer 614 performs the inventory data import batch process in a periodic manner, such as nightly, to update the data in inventory database 612. Inventory data importer 614 may use a modem dial-up connection, file transport protocol (FTP) and/or other mechanism to pull inventory records from the dealerships. A data cleansing or inventory data verification process may be used to remove spelling mistakes and verify the VIN (vehicle identification number) against the make, model, and other features of the vehicle. The data cleansing process ensures that the inventory data is in a consistent and accurate format that is suitable for consumer searching.

and display. Inventory database 612 may be batch processed or updated in real-time as necessary so that the most recent data is available for searching. Weekly full extract may be performed in addition to nightly updates on new data.

Detailed Description Text - DETX (25):

A second input to locate process 610 and inventory database 612 is an enterprise vehicle information process 660, which contains and processes data related to vehicles that are in-process. Locate inventory process 610 searches inventory database 612 and returns a list of matches and near matches (L2), preferably in decreasing order of matching percentile. The consumer may peruse the list and decide to tag a vehicle on the list. He or she can submit a tag request message (L3). The tag request message is sent from a workflow manager 622 to web server 605. The data in inventory database 612 associated with the selected vehicle is updated to indicate that it has been tagged and that subsequent searches should yield results with the tagged vehicle suppressed. Preferably, a consumer is able to tag a vehicle only after a down payment has been paid or the consumer's credit has been approved, for example. A consumer may tag a vehicle that is in inventory, in-transit, in production, or on the order bank. A tag response message (L4) is then generated and returned to workflow manager 622 to confirm that the selected vehicle has been successfully tagged for purchase. The response may be formatted and displayed to the consumer to indicate success or failure and perhaps also provide an estimate of the vehicle delivery or available date. A tag order message (O3) is generated and sent to workflow manager process 622 for processing. Workflow manager process 622 is one or more application servers which process vehicle orders and conveys this order to dealerships 624.

Detailed Description Text - DETX (26):

If the search response indicates that no match was found or the consumer is not satisfied with the near matches, the consumer has the option of placing a custom order for a vehicle with the desired options and features (O1 or O2). Fleet orders (O1) placed by fleet consumers are routed via web server 605 to a B2B server 640, which in turn sends the order to an order process 644 via an intranet server 642. B2B server 640 is preferably situated in an intranet environment behind a firewall that safeguards it from the outside world. Order process 644 processes the fleet order and then sends it to a corporate on-line communications entry point system (CONCEPTS) 648 via an SNP server gateway 646. CONCEPTS generates a new order, which is put on an order bank 656.

Detailed Description Text - DETX (34):

As described above, external applications are operable to submit search requests to locate process 610 to find vehicles in-process and at dealership which match or substantially match the search criteria. The search requests may be submitted in the form of XML (extended markup language) messages and the responses be received in an XML. The search request messages contain the search criterion, the relative importance or weight of each criteria, and the type of data to be returned. A client or presentation application may request information for a number of reasons. For example, the client application may request a list of identifier and value pairs for a number of criteria, such as make and model of the desired vehicle. The returned values are then used to populate the criteria definition elements of the client application user interface, such as pull-down lists of available makes and models. The client application may then compile the user selected criteria preferences into a

second XML message that requests a list of matching vehicles in inventory database 612. The returned response message may be compatible with known formats, such as the auto-lead data format (ADF).

Detailed Description Text - DETX (35):

Referring to FIG. 8, a message flow diagram of an embodiment of the locate process according to the present invention is shown. The locate process includes a configure client 854 and a locate client 862 that reside in a client side application 850, and a locate server 821 in the server side application. A consumer calls up or downloads web pages 852 to enter the desired make, model, options and features of the product, a configure message 853 is generated and sent to configure client 854. The consumer may also submit the same product criteria in a configure message 861 of the desired product via a web page 860 to search or locate vehicles matching or generally matching the search criteria. Configure message 861 is sent to locate client 862, which generates a locate search request message 863 containing the configuration content of configure message 861 and routes it to a locate server 821. Locate server 821 parses and uses the search criteria in the locate search request to query inventory database 612. Search results are then returned to locate server 821. Locate server 821 then generates a response message 865 containing a summary of the matched vehicles and sends it back to locate client 862. The returned response is parsed, formatted and stored in a database 869. The list of vehicles that match or generally match the submitted criteria is then displayed as content in a web page 855 to the consumer.

Detailed Description Text - DETX (39):

Parser 904 reads the request messages and parses out specific portions thereof, which are passed as parameters to the underlying

search processes via a dispatcher 906. Each parser 904 is persistent until a response is received from dispatcher 906. The content of the request messages generally includes request conditions or request criteria. Request conditions include required fields, optional fields, relevance weights, maximum record count, etc. Request criteria include specific vehicle configuration, such as make, model, options, and features to search for. Two types of vehicle searches are supported, one that returns a summary of vehicles that fits the search criteria, and one that returns detailed information of selected vehicles or a smaller subset of vehicles.

Detailed Description Text - DETX (40):

Dispatcher 906 examines the content of incoming parameters received from parser 904 and determines which underlying locate server function is needed to process the request. For example, the request may be a search request for vehicles that match a set of criteria or a tag request on a particular vehicle. Dispatcher 906 may examine the parameters against business rules defined for the requesting application, and replace any offending parameters with permissible parameters. Dispatcher 906 may also provide the overall locate server monitoring and control functions for spawning additional processes or threads to service incoming requests, and to manage the overall creation and destruction of pooled database sessions.

Detailed Description Text - DETX (42):

Search values are returned from inventory database 612 to searcher 908, which passes the returned values to dispatcher 906 and then to parser 904. Parser 904 constructs a response XML message and sends it to the requesting application.

Detailed Description Text - DETX (43):

Processing on the locate client side according to the teachings of the present invention is shown in FIG. 10. A message converter 922 is operable to receive an XML document from the configure process and search criteria parameters as input to generate a locate request XML formatted document output. Using message converter 922, applications are not required to modify their application when new versions of communication schemas are rolled out. Message converter 922 is also operable to accept text inputs to generate a locate request document. A sub-function of message converter 922 is a tag parser that creates supported tag messages and returns the status from the tag response message.

Detailed Description Text - DETX (46):

Referring to FIG. 11, a block diagram of an embodiment of a search engine 962 of the locate process is shown. Search engine 962 includes at least two layers or tiers--a business tier 964 overlaying a data tier 966. Data tier 966 includes inventory database 612, which contains data on enterprise-wide in inventory and in-process products. Data tier 966 also includes a DataObj.InventorySimpleSearch object 976. DataObj.InventorySimpleSearch object 976 exposes a set of methods that may be called by business tier 964 to search inventory database 612. Business tier 964 includes a BusinessASP.Listener object 972 and a BusinessObj.BusinessObject object 974. BusinessObject object 974 is the main component that implements the business rules and validates user privilege. The listener object 972 parses the request XML messages received from the web sites and interprets the information for the BusinessObject. The listener object 972 is also operable to generate the XML reply messages. A Locate.ASP page 970 is operable to fetch the request XML

messages received from the web sites and passes it to the listener object 972. Locate.ASP page 970 is also operable for pushing the reply XML messages back to the web site that submitted the search request messages.

Detailed Description Text - DETX (47):

A search request can be submitted to search engine 962 by using the HTTP by posting an XML request message to Locate.ASP page 970. Locate.ASP page 970 may respond by returning a reply XML message containing the search results. The search request is contained in the body of an HTTP message and the search result is contained in the body of a returned HTTP message. A valid user name and password with the necessary privilege is required to post a request to the Locate.ASP page 970.

Detailed Description Text - DETX (48):

A number of alternative means of initiating the locate search request is available depending on the operating system. For example, on the Windows NT 4.0 platform, the request message may be posted using the Winlnet.TM. API (application program interface), the WINSOCK.TM. API, or the Microsoft.XMLHTTP.TM.. Other means are available as known in the art.

Detailed Description Text - DETX (49):

Optionally, the search request message can be submitted to search engine 802 by passing the XML message to a Business.Listener COM (common object model) object. This object exposes a single method, ProcessXMLRequest, that accepts the XML message as a string.

Detailed Description Text - DETX (50):

Search engine 802 will accept a search request submitted by web sites that has a valid user name and password with the necessary

privileges. Roles are assigned to the web sites that identify the web sites and its available functionality. Business tier 804 verifies that the web site has the correct role to perform the requested task. A site role uniquely identifies the web site that is using the user name to request service from search engine 802. For example, the BuyerConnection.com web site is required to have the SiteBuyerConnection role. The site role assignments are used to accomplish site-specific validations. A second role, functionality role, is used to identify the privilege of the user or web site. For example, to search the dealer inventory database, the user needs the FunctionalitySearchDealerInventoryDatabase role assigned thereto.

Detailed Description Text - DETX (51):

As described above, the locate processes involves generating and sending XML messages in one embodiment, such as sending search request XML messages and search response XML messages. XML is primarily used to support application-to-application data exchange formats, such as that found in traditional EDI (electronic data interchange) over the Internet. The format of these XML messages are now described. It should be noted that the XML implementation of the messages is but one embodiment of the messaging schema, and that other languages and communication schemes can also be used.

Detailed Description Text - DETX (54):

A search request message contains a specification of a set of vehicle attributes to be searched. For example, a search request message may have the format 1000 shown in FIG. 12. A search request tag 1002 is the top level tag for the locate request. A request message may include many request parameters that describe many attributes, with each following the

same general format shown. Each search request 1002 includes a criteria tag 1004, which "wraps" all criterion 1006 for one search query. The valid values for criterion include dealer, make, model, and other options and features. <ElementType name="Criterion" content="eltOnly" order="seq"> <Attribute Type name="type" dt:type="enumeration" dt:values="vin dealer make model year package engine transmission tires exteriorpaint interiortrim roofcolor seattrim accentcolor stage option msrp bodystyle vehicletype category askingprice condition wheels audiotype"/> <Attribute Type name="required" dt:type="boolean" required="yes"/> <Attribute Type name="weight" dt:type="number"/> <attribute type="type"/> <attribute type="required"/> <attribute type="weight"/> <element type="Value" minOccurs="0" maxOccurs="*" /> <element type="Range" minOccurs="0" maxOccurs="*" /> </ElementType>

Detailed Description Text - DETX (56):

Referring to FIG. 13, an embodiment of the format of a search response 1020 is specified by search results tag 1022. Search results tag 1022 include an errors tag 1024 and a vehicles tag 1026. Errors tag 1024 is used to return information if the search is unsuccessful. Vehicles tag 1026 contains data on one or more vehicle 1027 that fits the search criteria. An identification tag 1028 contains a unique VIN and/or stock number that is used to identify the vehicle. A status tag 1029 contains the status of the vehicle, including condition, process tag, days in inventory, and description. A dealer code tag 1030 contains an identifier that specifies the dealership that has the vehicle in inventory. Configured model tag 1031 is used to specify detailed information of the vehicle, including price information (type, value, currency)

1032, make (code, description) 1033, model (code, name, year, trim, description) 1034, engine specifications (code, displacement, number of cylinders, fuel type) 1035, transmission specifications (code, type, speed, description) 1036, exterior paint color (code, description) 1037, wheel specifications (code, diameter, description) 1038, tire specifications (code, manufacturer, description) 1039, seat trim color 1040, interior trim materials 1041, audio system specifications (code, radio, cassette, CD, description) 1042, two-wheel or four-wheel drive 1043, cab style 1044, body style 1045, rear axle ratio 1046, payload package (extra payload or towing capacity) 1047, wheel base length 1048, roof color 1049, number of doors 1050, accent color (such as exterior paint color for the bottom half of the vehicle) 1051, spare tire specification 1052, preferred equipment package (PEP) 1053, option package 1054, stand alone options 1055, and any error message 1056. Lastly, warranty information is contained in a warranty parameter 1057.

Detailed Description Text - DETX (60):

The tagged configuration parameter 1084 contains data of the tagged vehicle:
VIN 1085, stock number 1086, item number 1087, order line number 1088, matched configuration 1089, configured model 1090, tagged dealer 1121, selected dealer 1122, vehicle initial status 1123 (new, used, in-stock), and locate search identifier 1124. Stock number 1086 is a number assigned to the vehicle by the dealer, item number 1087 is a number assigned to the vehicle by the enterprise mainframe. Matched configuration 1089 is a Boolean value (true or false) that indicates whether the tagged vehicle is exactly the same as the configured vehicle. Locate search identifier 1124 identifies the tagged configuration selected by the customer to place an order. The configured model 1090 parameter contains the same data on the configured

vehicle, including prices
1091 (tag for price information), price 1092 (price
offered to the Internet
customer, manufacturer's suggested retail price, invoice
price), make 1093,
model 1094, engine specifications 1095, transmission
specifications 1096,
exterior paint color 1097, wheels 1098, tires 1099, seat
trim 1100, interior
trim 1101, audio type 1102, drive 1103, cab 1104, body
style 1105, rear axle
ratio 1106, payload package 1107, wheel base 1108, roof
color 1109, number of
doors 1110, accent color 1111, spare tire 1112, PEP 1113,
PEP package content
1114, option package 1115, option package content 1116,
stand alone options tag
1117 for stand alone option 1118, errors tag 1119 for
error 1120.

Detailed Description Text - DETX (61):

Tagged dealer 1121 is a tag for the dealer code of the
dealer that has the
requested vehicle. Selected dealer 1122 is the tag for
the dealer code that
the customer has selected from whom to purchase the
vehicle. Vehicle initial
status 1123 is the new, used, or in-stock status of the
vehicle when it is
tagged. Locate search identifier 1124 is used to
identify the tagged
configuration selected by the consumer to place the
order.

Detailed Description Text - DETX (65):

FIG. 17 is a more detailed block and flow diagram of
an embodiment of new
order processing according to the teachings of the
present invention. A
consumer 601 submits a new order 1200 to a web site 602,
which is constructed
as an interface between the vehicle manufacturer and the
customers. As
described previously, the consumer has performed a search
and has selected a
vehicle that satisfies the consumer's selection criteria.
Web site 602
retrieves vehicle configuration information 1201 from
configuration and pricing

database 608, and customer data 1202 from common membership database 672 via interface 670. Web site 602 sends a request 1203 for credit card authorization to a credit card process 1232, which returns a credit card authorization reply 1204 to web site 602. Web site 602 also sends an order number request 1205 to an order number generator 620, which generates a unique order number 1206 used to identify the order. Web site 602 provides an order confirmation 1207 with the received order number to consumer, which is displayed on a web page. Web site 602 provides a new order message 1028 to workflow manager 622, which forwards the new order information 1209 to prospect/buyer database 630 and to B2B server 640 in the form of a new order message 1210. B2B server 640 forwards new order message 1211 to order process 644. Order process 644 then sends the new order information 1212 to SNA server 646, which also sends the new order information 1213 to CONCEPS 648. CONCEPS 648 forwards the new order 1214 to order bank 656. CONCEPS 648 sends the dealer order data portion 1215 of the new order to dealer order database 650. CONCEPS 648 then returns edit results 1216 to SNA server 646, which forwards the information 1217 to order process 644.

Detailed Description Text - DETX (67):

FIG. 18 is a more detailed block and flow diagram of an embodiment of tag order processing according to the teachings of the present invention. A consumer 601 submits a tag order 1300 to web site or portal 602, which is constructed as an interface between the vehicle manufacturer and the customers. Web site 602 receives a vehicle configuration message 1301 from vehicle configuration and pricing database 608 and receives information 1302 on vehicle inventory search from locate process 610. Customer profile data 1303 are also stored into common membership database 672 via common

membership database interface 670. Web site 602 also submits a credit card authorization request 1304 to a credit card processor 1220, which then returns a reply 1305. Web site 602 also sends an order number request 1306 to order number generator 620, which then returns a unique order number 1307. The process by which the order numbers are generated is shown in FIG. 23 and described below. Web site 602 then sends an order confirmation 1308 to consumer 601 with the generated order number.

Detailed Description Text - DETX (68):

Thereafter, web site 602 sends a tag order message 1309 to workflow manager 622, which forwards the new tag order information to prospect/buyer database 630. A temporary inventory tag message 1311 is then sent from workflow manager 622 to locate process 610. A temporary tag is used initially when an Internet consumer requests to tag or reserve a vehicle. When a vehicle is temporarily tagged, it is not returned in subsequent search results. Locate process 610 updates the data in the inventory database and sends a tag response message 1312 back as confirmation. Workflow manager 622 also informs dealer 624 by sending a new tag order 1313.

Detailed Description Text - DETX (69):

Periodically or when necessary, workflow manager 622 and dealer 624 communicate to inform one another of inventory availability follow-up and status updates 1314. Prospect/buyer database 630 is updated by order status updates 1315 from workflow manager 622. Workflow manager 622, at the request of dealer 624 or consumer 601, may also send request messages 1316 to permanently tag or untag a vehicle in the database. A permanent tag is typically submitted by a dealer through the workflow manager to indicate that the transaction is

completed on a vehicle that had been previously temporarily tagged. A permanent tag message deletes the vehicle from the inventory database. An untag message is used to cancel a temporary tag on a vehicle. The untag message allows the specified vehicle to again be searched pursuant to subsequent search requests. An untag message may be submitted by a dealer, the CAC/BAC, CSR, consumer, or via locate administrative process that searches for expired temporary tags. A temporary tag automatically expires after a predetermined period, such as 30 days, for example. Customer service representatives 632 also updates or is updated by dealer 624 regarding inventory availability follow-up and status updates 1317. Dealer 624 also sends a credit card payment request 1318 to workflow manager 622, which sends the request 1319 to credit card processor 1220.

Detailed Description Text - DETX (99):

Report process 666 is operable to capture and store a variety of data from several components of the system, and then to display and print reports selected by the user. The consumer web sites 602 or the presentation applications capture data generated by user activity at the web site. For example, the user's click stream data and the session identifier are captured. If the user invokes an auxiliary information application at the web site to calculate the amount of interest on the car loan, for example, then that information is also captured. If the user generates a vehicle configuration, a configuration identifier will also be generated and captured. At the end of a session, an XML message is generated to include the entire session detailed data, identifiers, and click stream data, which is then sent to web server 605. For example, the XML message may include the web site identifier, session identifier, configuration identifiers, customer zip code,

auxiliary information
application invocation, configuration click stream for
each configuration
identifier done during the session, vehicle configuration
specification for
each configuration identifier, whether locate search
results were selected,
session start date and time, session end date and time,
and the entry point and
exit points.

Detailed Description Text - DETX (100):

The transport of the session data message may be a
pseudo-real time or batch
process that is run at the end of each session, or
periodically, for example.
Web server 605 then sends the messages to a report log
utility of a report data
collector 1154, which may perform some data cleansing
function, such as parsing
the message and correcting errors. Data collector 1154
then sends the update
data to report data warehouse 668 periodically, such as
once a day, via batch
feed, for example. In addition, a copy of all the XML
messages generated in
the presentation applications and sent to workflow
manager 622 are also routed
to data collector 1154. The messages include tagged
orders, retail orders,
leads, vehicle searches, session data, status updates,
and lead/order updates.

Detailed Description Text - DETX (101):

After a complete configuration, the user may search
the selected
configuration in inventory database 612. Locate process
610 is operable to
pass a copy of the search result message to report log
utility 1930. For each
search results message, the session identifier,
configuration identifier, and
the match relevance for each criteria, are provided to
the report process.
Report data collector 1154 is operable to parse the XML
message and extract the
match relevance count for each criteria to pass to report
data warehouse 668.

Detailed Description Text - DETX (115):

Constructed and operating in this manner, a customer is afforded the opportunity to specify the desired configuration and options of a product to search the inventory for availability. The vehicle availability anywhere along the pipeline from the manufacturer to the dealership may be determined. The customer may tag a vehicle that is currently anywhere in the pipeline that fits his/her criteria for purchase. In the event that the specified product is not currently available, the customer may place a custom order for the product. Therefore, the customer is able to make a purchase on a product or vehicle that he/she desires and track the status of the vehicle when it is custom ordered and manufactured.

Claims Text - CLTX (12):

12. The communication schema, as set forth in claim 9, wherein the vehicle configuration of a tagged order message further comprises: a vehicle identifier; a stock number; an item number; a dealer identifier of a dealer having the tagged vehicle in inventory; a dealer identifier of a dealer selected by the user from whom to purchase the tagged vehicle; a vehicle initial status indicative of whether the vehicle is new or used; and a locate search identifier specifying the selected vehicle configuration.

Claims Text - CLTX (24):

24. The communication schema, as set forth in claim 15, wherein the vehicle configuration further comprises: a vehicle identifier; a stock number; an item number; a dealer identifier of a dealer having the tagged vehicle in inventory; a dealer identifier of a dealer selected by the user from whom to purchase the tagged vehicle; a vehicle initial status indicative of whether

the vehicle is new or used; and a locate search identifier specifying the selected vehicle configuration.

Claims Text - CLTX (34):

34. The method, as set forth in claim 26, wherein the vehicle configuration information further comprises: a vehicle identifier; a stock number; an item number; a dealer identifier of a dealer having the tagged vehicle in inventory; a dealer identifier of a dealer selected by the user from whom to purchase the tagged vehicle; a vehicle initial status indicative of whether the vehicle is new or used; and a locate search identifier specifying the selected vehicle configuration.

Current US Original Classification - CCOR (1):
705/27

Other Reference Publication - OREF (2):

Lipin, David, "CarsDirect Shifts Gears Again Conducts Search", Mar. 6, 2000.
Adweek, vol. 41, No. 10, p. 5.*

US-PAT-NO: 6496206
DOCUMENT-IDENTIFIER: US 6496206 B1
TITLE: Displaying thumbnail images of
document pages in an
electronic folder
DATE-ISSUED: December 17, 2002

INVENTOR-INFORMATION:

NAME	STATE	ZIP CODE	COUNTRY	CITY
Mernyk; Paul A.	CA	N/A	N/A	Palo Alto
Martin; Steven	MA	N/A	N/A	Topsfield
Prasad; Bevra S.	CA	N/A	N/A	Milpitas
Salgado; David L.	NY	N/A	N/A	Victor

US-CL-CURRENT: 345/835; 345/764

ABSTRACT:

In a graphical user interface for accessing a large number of files, such as text files, graphics files, or spreadsheets, a system allows quick glances of "thumbnails" or highly reduced versions of the files. When a folder is opened, every file in the folder is opened as a background operation and thumbnail data, such as a reduced image or text summary of the file, is derived and retained in a cache folder for quick access. When a cursor is touched, without a mouse-click, to a particular icon in the opened folder, the thumbnail for the file identified by the icon is accessed from the cache folder and displayed.

19 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

----- KWIC -----

Brief Summary Text - BSTX (12):

U.S. Pat. No. 5,500,936 discloses a multi-media slide presentation system which can be superimposed on a standard computer GUI. Each slide in the multimedia slide presentation may contain photographs, text, graphics, and charts. By actuating and releasing a control button of the mouse or trackball, a pop-up menu is displayed to aid the user to make selections that operate on the slides and objects on the slides. The text menu items may also indicate pop-up menus when selected.

Detailed Description Text - DETX (11):

FIGS. 3A and 3B show a simplified flowchart showing the basic operation of the method of the present invention. The functionality shown in the FIGS. can be embodied in code which is superimposed on the basic functions of an operating system, such as through the commercially-available utility "Shell Name Space Extension" in Microsoft.RTM. Windows 95.TM.. Following the flowchart, the method of the present invention is activated when a user opens a folder containing files therein, causing the folder space to be displayed on the GUI with icons therein, each icon corresponding to a file such as shown in FIG. 1 above. Once the folder having the files is opened, every file in the folder is opened as a background operation and thumbnail data is derived therefrom, such as at step 100. In the case of a purely graphics file such as in .xif or .jpg or .tif format, this thumbnail data can be readily derived by sampling the graphical data to yield the relatively small thumbnail that will be displayed. In the case of a file, such as in a word-processing format, which is known to be text-exclusive or text-intensive,

the thumbnail data can be derived by text-intensive means: For example, programs exist in the prior art which can be used to pull out what are determined to be "key words" of the text document, or the text data can be examined for the presence of proper names or text in a headline-type typeface. More sophisticated programs can even be used to synthesize an abstract of a quantity of text.

US-PAT-NO: 6029195
DOCUMENT-IDENTIFIER: US 6029195 A
TITLE: System for customized electronic
identification of desirable objects
DATE-ISSUED: February 22, 2000

INVENTOR-INFORMATION:
NAME CITY
STATE ZIP CODE COUNTRY
Herz; Frederick S. M. Davis
WV 26260 N/A

US-CL-CURRENT: 725/116, 707/10 , 725/93

ABSTRACT:

This invention relates to customized electronic identification of desirable objects, such as news articles, in an electronic media environment, and in particular to a system that automatically constructs both a "target profile" for each target object in the electronic media based, for example, on the frequency with which each word appears in an article relative to its overall frequency of use in all articles, as well as a "target profile interest summary" for each user, which target profile interest summary describes the user's interest level in various types of target objects.

The system then evaluates the target profiles against the users' target profile interest summaries to generate a user-customized rank ordered listing of target objects most likely to be of interest to each user so that the user can select from among these potentially relevant target objects, which were automatically selected by this system from the plethora of target objects that are profiled on the electronic media. Users' target profile interest summaries can be used

to efficiently organize the distribution of information in a large scale system consisting of many users interconnected by means of a communication network. Additionally, a cryptographically-based pseudonym proxy server is provided to ensure the privacy of a user's target profile interest summary, by giving the user control over the ability of third parties to access this summary and to identify or contact the user.

15 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

----- KWIC -----

Brief Summary Text - BSTX (10):

Apple's Advanced Technology Group has developed an interface based on the concept of a "pile of articles". This interface is described in an article titled "A 'pile' metaphor for supporting casual organization of information in Human factors in computer systems" published in CHI '92 Conf. Proc. 627-634 by Mander, R. G. Salomon and Y. Wong. 1992. Another article titled "Content awareness in a file system interface: implementing the 'pile' metaphor for organizing information" was published in 16 Ann. Int'l SIGIR '93, ACM 260-269 by Rose E. D. et al. The Apple interface uses word frequencies to automatically file articles by picking the pile most similar to the article being filed. This system functions to cluster articles into subpiles, determine key words for indexing by picking the words with the largest TF/IDF (where TF is term (word) frequency and IDF is the inverse document frequency) and label piles by using the determined key words.

Brief Summary Text - BSTX (18):

In the preferred embodiment of the invention, the system for customized electronic identification of desirable objects uses a fundamental methodology for accurately and efficiently matching users and target objects by automatically calculating, using and updating profile information that describes both the users' interests and the target objects' characteristics. The target objects may be published articles, purchasable items, or even other people, and their properties are stored, and/or represented and/or denoted on the electronic media as (digital) data. Examples of target objects can include, but are not limited to: a newspaper story of potential interest, a movie to watch, an item to buy, e-mail to receive, or another person to correspond with. In one suggested application, the user is a sender of email (which may have originated from the user for or from another external source such as from outside of a large organization) and the target objects are users who might be considered most appropriate based upon previous messages which they have received, read and responded to. Accordingly, like other target objects, users (or user pseudonyms) in accordance with their user profiles (or portions of which they have disclosed) may be organized and browsed within an automatically generated menu tree, which is below described in detail. In all these cases, the information delivery process in the preferred embodiment is based on determining the similarity between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object. Attributes may include, but are not limited to, the following: (1) long pieces of text (a newspaper story, a movie review, a product description or an advertisement), (2) short

pieces of text (name of a
movie's director, name of town from which an
advertisement was placed, name of
the language in which an article was written), (3)
numeric measurements (price
of a product, rating given to a movie, reading level of a
book), (4)
associations with other types of objects (list of actors
in a movie, list of
persons who have read a document). Any of these
attributes, but especially the
numeric ones, may correlate with the quality of the
target object, such as
measures of its popularity (how often it is accessed) or
of user satisfaction
(number of complaints received).

US-PAT-NO: 5754939

DOCUMENT-IDENTIFIER: US 5754939 A

TITLE: System for generation of user
profiles for a system for
customized electronic
identification of desirable objects

DATE-ISSUED: May 19, 1998

INVENTOR-INFORMATION:

NAME	CITY
STATE ZIP CODE COUNTRY	
Herz; Frederick S. M.	Davis
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Eisner; Jason M.	Philadelphia
PA 19107 N/A	
Ungar; Lyle H.	Philadelphia
PA 19103 N/A	
Marcus; Mitchell P.	Philadelphia
PA 19119 N/A	

US-CL-CURRENT: 455/3.04, 709/219 , 715/501.1 , 725/34

ABSTRACT:

This invention relates to customized electronic identification of desirable objects, such as news articles, in an electronic media environment, and in particular to a system that automatically constructs both a "target profile" for each target object in the electronic media based, for example, on the frequency with which each word appears in an article relative to its overall frequency of use in all articles, as well as a "target profile interest summary" for each user, which target profile interest summary describes the user's interest level in various types of target objects.

The system then evaluates the target profiles against the users' target profile interest summaries to generate a user-customized rank ordered listing of target objects most likely to be of interest to each user so that the

user can select from
among these potentially relevant target objects, which
were automatically
selected by this system from the plethora of target
objects that are profiled
on the electronic media. Users' target profile interest
summaries can be used
to efficiently organize the distribution of information
in a large scale system
consisting of many users interconnected by means of a
communication network.
Additionally, a cryptographically-based pseudonym proxy
server is provided to
ensure the privacy of a user's target profile interest
summary, by giving the
user control over the ability of third parties to access
this summary and to
identify or contact the user.

22 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

----- KWIC -----

Brief Summary Text - BSTX (10):

Apple's Advanced Technology Group has developed an
interface based on the
concept of a "pile of articles". This interface is
described in an article
titled "A 'pile' metaphor for supporting casual
organization of information in
Human factors in computer systems" published in CHI
'92Conf. Proc. 627-634 by
Mander, R. G. Salomon and Y. Wong. 1992. Another
article titled "Content
awareness in a file system interface: implementing the
'pile' metaphor for
organizing information" was published in 16 Ann. Int'l
SIGIR '93, ACM 260-269
by Rose E. D. et al. The Apple interface uses word
frequencies to automatically
file articles by picking the pile most similar to the
article being filed.
This system functions to cluster articles into subpiles,
determine key words
for indexing by picking the words with the largest TF/IDF

(where TF is term
(word) frequency and IDF is the inverse document
frequency) and label piles by
using the determined key words.

Brief Summary Text - BSTX (18):

In the preferred embodiment of the invention, the system for customized electronic identification of desirable objects uses a fundamental methodology for accurately and efficiently matching users and target objects by automatically calculating, using and updating profile information that describes both the users' interests and the target objects' characteristics. The target objects may be published articles, purchasable items, or even other people, and their properties are stored, and/or represented and/or denoted on the electronic media as (digital) data. Examples of target objects can include, but are not limited to: a newspaper story of potential interest, a movie to watch, an item to buy, e-mail to receive, or another person to correspond with. In all these cases, the information delivery process in the preferred embodiment is based on determining the similarity between a profile for the target object and the profiles of target objects for which the user (or a similar user) has provided positive feedback in the past. The individual data that describe a target object and constitute the target object's profile are herein termed "attributes" of the target object. Attributes may include, but are not limited to, the following: (1) long pieces of text (a newspaper story, a movie review, a product description or an advertisement), (2) short pieces of text (name of a movie's director, name of town from which an advertisement was placed, name of the language in which an article was written), (3) numeric measurements (price of a product, rating given to a movie, reading level of a book), (4) associations with other types of objects

(list of actors in a movie, list of persons who have read a document). Any of these attributes, but especially the numeric ones, may correlate with the quality of the target object, such as measures of its popularity (how often it is accessed) or of user satisfaction (number of complaints received).

rief Summary Text - BSTX (17):

Preferably, the product characterizations are derived
from text
characterizations of each of the products and

US-PAT-NO: 6317722
DOCUMENT-IDENTIFIER: US 6317722 B1
TITLE: Use of electronic shopping carts
to generate personal recommendations
DATE-ISSUED: November 13, 2001

INVENTOR-INFORMATION:

NAME	STATE	ZIP CODE	COUNTRY	CITY
Jacobi; Jennifer A.	WA	N/A	N/A	Seattle
Benson; Eric A.	WA	N/A	N/A	Seattle
Linden; Gregory D.	WA	N/A	N/A	Seattle

US-CL-CURRENT: 705/14, 705/27 , 707/102

ABSTRACT:

A computer-implemented service recommends products or other items to a user based on a set of items known to be of interest to the user, such as a set of items currently in the user's electronic shopping cart. In one embodiment, the service identifies items that are currently in the user's shopping cart, and uses these items to generate a list of additional items that are predicted to be of interest to the user, wherein an additional item is selected to include in the list based in-part upon whether that item is related to more than one of the items in the user's shopping cart. The item relationships are preferably determined by an off-line process that analyzes user purchase histories to identify correlations between item purchases. The additional items are preferably displayed to the user when the user views the contents of the shopping cart.

42 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

----- KWIC -----

Brief Summary Text - BSTX (5):

One technique commonly used by recommendation services is known as content-based filtering. Pure content-based systems operate by attempting to identify items which, based on an analysis of item content, are similar to items that are known to be of interest to the user. For example, a content-based Web site recommendation service may operate by parsing the user's favorite Web pages to generate a profile of commonly-occurring terms, and then use this profile to search for other Web pages that include some or all of these terms.

Brief Summary Text - BSTX (7):

Another common recommendation technique is known as collaborative filtering. In a pure collaborative system, items are recommended to users based on the interests of a community of users, without any analysis of item content. Collaborative systems commonly operate by having the users rate individual items from a list of popular items. Through this process, each user builds a personal profile of ratings data. To generate recommendations for a particular user, the user's profile is initially compared to the profiles of other users to identify one or more "similar users." Items that were rated highly by these similar users (but which have not yet been rated by the user) are then recommended to the user. An important benefit of collaborative filtering is that it overcomes the above-noted deficiencies of content-based filtering.

Brief Summary Text - BSTX (11):

Another problem with both collaborative and content-based systems is that they generally do not reflect the current preferences of the community of users. In the context of a system that recommends products to customers, for example, there is typically no mechanism for favoring items that are currently "hot sellers." In addition, existing systems do not provide a mechanism for recognizing that the user may be searching for a particular type or category of item.

Brief Summary Text - BSTX (13):

The present invention addresses these and other problems by providing a computer-implemented service and associated methods for generating personalized recommendations of items based on the collective interests of a community of users. An important benefit of the service is that the recommendations are generated without the need for the user, or any other users, to rate items. Another important benefit is that the recommended items are identified using a previously-generated table or other mapping structure which maps individual items to lists of "similar" items. The item similarities reflected by the table are based at least upon correlations between the interests of users in particular items.

Brief Summary Text - BSTX (15):

In accordance with one aspect of the invention, the mappings of items to similar items ("item-to-item mappings") are generated periodically, such as once per week, by an off-line process which identifies correlations between known interests of users in particular items. For example, in the embodiment described in detail below, the mappings are generating by periodically

analyzing user purchase histories to identify correlations between purchases of items. The similarity between two items is preferably measured by determining the number of users that have an interest in both items relative to the number of users that have an interest in either item (e.g., items A and B are highly similar because a relatively large portion of the users that bought one of the items also bought the other item). The item-to-item mappings could also incorporate other types of similarities, including content-based similarities extracted by analyzing item descriptions or content.

Brief Summary Text - BSTX (16):

To generate a set of recommendations for a given user, the service retrieves from the table the similar items lists corresponding to items already known to be of interest to the user, and then appropriately combines these lists to generate a list of recommended items. For example, if there are three items that are known to be of interest to the user (such as three items the user recently purchased), the service may retrieve the similar items lists for these three items from the table and combine these lists. Because the item-to-item mappings are regenerated periodically based on up-to-date sales data, the recommendations tend to reflect the current buying trends of the community.

Brief Summary Text - BSTX (17):

In accordance with another aspect of the invention, the similar items lists read from the table may be appropriately weighted (prior to being combined) based on indicia of the user's affinity for, or current interest in, the corresponding items of known interest. For example, the similar items list for a book that was purchased in the last week may be weighted more heavily than the similar items list for a book that was purchased four months ago.

Weighting a similar items list heavily has the effect of increasing the likelihood that the items in that list will be included in the recommendations that are ultimately presented to the user.

Brief Summary Text - BSTX (19):

Another feature of the invention involves using the current and/or recent contents of the user's shopping cart as inputs to the recommendation service (or to another type of recommendation service which generates recommendations given a unary listing of items). For example, if the user currently has three items in his or her shopping cart, these three items can be treated as the items of known interest for purposes of generating recommendations, in which case the recommendations may be generated and displayed automatically when the user views the shopping cart contents. Using the current and/or recent shopping cart contents as inputs tends to produce recommendations that are highly correlated to the current short-term interests of the user--even if these short term interest differ significantly from the user's general preferences. For example, if the user is currently searching for books on a particular topic and has added several such books to the shopping cart, this method will more likely produce other books that involve the same or similar topics.

Brief Summary Text - BSTX (20):

One aspect of the invention is thus a computer-implemented method of recommending items to a user. The method comprises identifying a plurality of items that are currently in the user's shopping cart; and using the plurality of items in the user's shopping cart to generate a list of additional items that are predicted to be of interest to the user, wherein an additional item is selected for inclusion in the list based in-part upon

whether that additional item is similar to more than one of the plurality of items in the user's shopping cart. The list of additional items is displayed to the user when the user views contents of the shopping cart.

Drawing Description Text - DRTX (5):

FIG. 3 illustrates a sequence of steps that are performed by the table generation process of FIG. 1 to generate a similar items table, and illustrates temporary data structures generated during the process.

Detailed Description Text - DETX (5):

The Amazon.com Web site includes functionality for allowing users to search, browse, and make purchases from an online catalog of several million book titles, music titles, video titles, and other types of items. Using a shopping cart feature of the site, users can add and remove items to/from a personal shopping cart which is persistent over multiple sessions.

(As used herein, a "shopping cart" is a data structure and associated code which keeps track of items that have been selected by a user for possible purchase.) For example, a user can modify the contents of the shopping cart over a period of time, such as one week, and then proceed to a check out area of the site to purchase the shopping cart contents.

Detailed Description Text - DETX (9):

The recommendations are generated using a table which maps items to lists of "similar" items ("similar items lists"), without the need for users to rate any items (although ratings data may optionally be used). For example, if there are three items that are known to be of interest to a particular user (such as three items the user recently purchased), the service may retrieve the similar items lists for these three items from the table, and appropriately combine

these lists (as described below) to generate the recommendations.

Detailed Description Text - DETX (10):

In accordance with one aspect of the invention, the mappings of items to similar items ("item-to-item mappings") are generated periodically, such as once per week, from data which reflects the collective interests of the community of users. More specifically, the item-to-item mappings are generated by an off-line process which identifies correlations between known interests of users in particular items. For example, in the embodiment described in detail below, the mappings are generating by analyzing user purchase histories to identify correlations between purchases of particular items (e.g., items A and B are similar because a relatively large portion of the users that purchased item A also bought item B). The item-to-item mappings could also reflect other types of similarities, including content-based similarities extracted by analyzing item descriptions or content.

Detailed Description Text - DETX (12):

In accordance with another aspect of the invention, the similar items lists read from the table are appropriately weighted (prior to being combined) based on indicia of the user's affinity for or current interest in the corresponding items of known interest. For example, in one embodiment described below, if the item of known interest was previously rated by the user (such as through use of the BookMatcher service), the rating is used to weight the corresponding similar items list. Similarly, the similar items list for a book that was purchased in the last week may be weighted more heavily than the similar items list for a book that was purchased four months ago.

Detailed Description Text - DETX (14):

Using the current and/or recent shopping cart contents as inputs tends to produce recommendations that are highly correlated to the current short-term interests of the user--even if these short term interests are not reflected by the user's purchase history. For example, if the user is currently searching for a father's day gift and has selected several books for prospective purchase, this method will have a tendency to identify other books that are well suited for the gift recipient.

Detailed Description Text - DETX (19):

As depicted by FIG. 1, the Web server 32 communicates with various external components 40 of the site. These external components 40 include, for example, a search engine and associated database (not shown) for enabling users to interactively search the catalog for particular items. Also included within the external components 40 are various order processing modules (not shown) for accepting and processing orders, and for updating the purchase histories of the users.

Detailed Description Text - DETX (29):

The recommendation services components 44 also include a recommendation process 52, a similar items table 60, and an off-line table generation process 66, which collectively implement the Recommendation Service. As depicted by the arrows in FIG. 1, the recommendation process 52 generates personal recommendations based on information stored within the similar items table 60, and based on the items that are known to be of interest ("items of known interest") to the particular user.

Detailed Description Text - DETX (31):

The various processes 50, 52, 66 of the recommendation services may run, for example, on one or more Unix or NT based workstations or

physical servers (not shown) of the Web site 30. The similar items table 60 is preferably stored as a B-tree data structure to permit efficient look-up, and may be replicated across multiple machines (together with the associated code of the recommendation process 52) to accommodate heavy loads.

Detailed Description Text - DETX (32):
II. Similar Items Table (FIG. 1)

Detailed Description Text - DETX (33):
The general form and content of the similar items table 60 will now be described with reference to FIG. 1. As this table can take on many alternative forms, the details of the table are intended to illustrate, and not limit, the scope of the invention.

Detailed Description Text - DETX (34):
As indicated above, the similar items table 60 maps items to lists of similar items based at least upon the collective interests of the community of users. The similar items table 60 is preferably generated periodically (e.g., once per week) by the off-line table generation process 66. The table generation process 66 generates the table 60 from data that reflects the collective interests of the community of users. In the embodiment described in detail herein, the similar items table is generated exclusively from the purchase histories of the community of users (as depicted in FIG. 1). In other embodiments, the table 60 may additionally or alternatively be generated from other indicia of user-item interests, including indicia based on users viewing activities, shopping cart activities, and item rating profiles. For example, the table 60 could be built exclusively from the present and/or recent shopping cart contents of users. The similar items table 60 could also reflect

non-collaborative type item similarities, including content-based similarities derived by comparing item contents or descriptions.

Detailed Description Text - DETX (35):

Each entry in the similar items table 60 is preferably in the form of a mapping of a popular item 62 to a corresponding list 64 of similar items ("similar items lists"). As used herein, a "popular" item is an item which satisfies some pre-specified popularity criteria. For example, in the embodiment described herein, an item is treated as popular if it has been purchased by more than 30 customers during the life of the Web site. Using this criteria produces a set of popular items (and thus a recommendation service) which grows over time. The similar items list 64 for a given popular item 62 may include other popular items.

Detailed Description Text - DETX (37):

Each similar items list 64 consists of the N (e.g., 20) items which, based on correlations between purchases of items, are deemed to be the most closely related to the respective popular item 62. Each item in the similar items list 64 is stored together with a commonality index ("CI") value which indicates the relatedness of that item to the popular item 62, based on sales of the respective items. A relatively high commonality index for a pair of items ITEM A and ITEM B indicates that a relatively large percentage of users who bought ITEM A also bought ITEM B (and vice versa). A relatively low commonality index for ITEM A and ITEM B indicates that a relatively small percentage of the users who bought ITEM A also bought ITEM B (and vice versa). As described below, the similar items lists are generated, for each popular item, by selecting the N other items that have the highest commonality index values. Using this method, ITEM A may be included in ITEM B's similar items list

even though ITEM B is not present in ITEM A's similar items list.

Detailed Description Text - DETX (38):

In the embodiment depicted by FIG. 1, the items are represented within the similar items table 60 using product IDs, such as ISBNs or other identifiers. Alternatively, the items could be represented within the table by title ID, where each title ID corresponds to a given "work" regardless of its media format. In either case, different items which correspond to the same work, such as the hardcover and paperback versions of a given book or the VCR cassette and DVD versions of a given video, are preferably treated as a unit for purposes of generating recommendations.

Detailed Description Text - DETX (44):

As illustrated by FIG. 2, the first step (step 80) of the recommendations-generation process involves identifying a set of items that are of known interest to the user. The "knowledge" of the user's interest can be based on explicit indications of interest (e.g., the user rated the item highly) or implicit indications of interest (e.g., the user added the item to a shopping cart). Items that are not "popular items" within the similar items table 60 can optionally be ignored during this step.

Detailed Description Text - DETX (46):

For each item of known interest, the service retrieves the corresponding similar items list 64 from the similar items table 60 (step 82), if such a list exists. If no entries exist in the table 60 for any of the items of known interest, the process 52 may be terminated; alternatively, the process could attempt to identify additional items of interest, such as by accessing other sources of interest information.

Detailed Description Text - DETX (47):

In step 84, the similar items lists 64 are optionally weighted based on information about the user's affinity for the corresponding items of known interest. For example, a similar items list 64 may be weighted heavily if the user gave the corresponding popular item a rating of "5" on a scale of 1-5, or if the user purchased multiple copies of the item. Weighting a similar items list 64 heavily has the effect of increasing the likelihood that the items in that list will be included in the recommendations that are ultimately presented to the user. In one implementation described below, the user is presumed to have a greater affinity for recently purchased items over earlier purchased items.

Detailed Description Text - DETX (48):

The similar items lists 64 are preferably weighted by multiplying the commonality index values of the list by a weighting value. The commonality index values as weighted by any applicable weighting value are referred to herein as "scores." In other embodiments, the recommendations may be generated without weighting the similar items lists 64.

Detailed Description Text - DETX (49):

If multiple similar items lists 64 are retrieved in step 82, the lists are appropriately combined (step 86), such as by merging the lists while summing the scores of like items. The resulting list is then sorted (step 88) in order of highest-to-lowest score. In step 90, the sorted list is filtered to remove unwanted items. The items removed during the filtering process may include, for example, items that have already been purchased or rated by the user, and items that fall outside any product group (such as music or books), product category (such as non-fiction), or content rating (such

as PG or adult)
designated by the user. The filtering step could alternatively be performed at a different stage of the process, such as during the retrieval of the similar items lists from the table 60. The result of step 90 is a list ("recommendations list") of other items to be recommended to the user.

Detailed Description Text - DETX (52):

IV. Generation of Similar Items Table (FIGS. 3 and 4)

Detailed Description Text - DETX (53):

The table-generation process 66 is preferably executed periodically (e.g., once a week) to generate a similar items table 60 that reflects the most recent purchase history data. The recommendation process 52 uses the most recently generated version of the table 60 to generate recommendations.

Detailed Description Text - DETX (54):

FIG. 3 illustrates the sequence of steps that are performed by the table generation process 66 to build the similar items table 60. The general form of temporary data structures that are generated during the process are shown at the right of the drawing. As will be appreciated by those skilled in the art, any of a variety of alternative methods could be used to generate the table 60.

Detailed Description Text - DETX (56):

The product IDs may be converted to title IDs during this process, or when the table 60 is later used to generate recommendations, so that different versions of an item (e.g., hardcover and paperback) are represented as a single item. This may be accomplished, for example, by using a separate database which maps product IDs to title IDs. To generate a similar items table that strongly reflects the current tastes of the community,

the purchase histories
retrieved in step 100 can be limited to a specific time
period, such as the
last six months.

Detailed Description Text - DETX (62):

Thus, even though items P and Y have more customers in
common than items P
and X, items P and X are treated as being more similar
than items P and Y. This
result desirably reflects the fact that the percentage of
item X customers that
bought item P (6.7%) is much greater than the percentage
of item Y customers
that bought item P (0.08%).

Detailed Description Text - DETX (66):

In step 116, the sorted other_items lists are
truncated to length N to
generate the similar items lists, and the similar items
lists are stored in a
B-tree table structure for efficient look-up

Detailed Description Text - DETX (67):

As indicated above, any of a variety of other methods
for evaluating
similarities between items could be incorporated into the
table generation
process 66. For example, the table generation process
could compare item
contents and/or use previously-assigned product
categorizations as additional
indicators of item similarities. An important benefit of
the FIG. 3 method,
however, is that the items need not contain any content
that is amenable to
feature extraction techniques, and need not be
pre-assigned to any categories.
For example, the method can be used to generate a similar
items table given
nothing more than the product IDs of a set of products
and user purchase
histories with respect to these products.

Detailed Description Text - DETX (68):

Another important benefit of the Recommendation
Service is that the bulk of

the processing (the generation of the similar items table 60) is performed by an off-line process. Once this table has been generated, personalized recommendations can be generated rapidly and efficiently, without sacrificing breadth of analysis.

Detailed Description Text - DETX (72):

FIG. 5 illustrates the sequence of steps that are performed by the Instant Recommendations service to generate personal recommendations. Steps 180-194 in FIG. 5 correspond, respectively, to steps 80-94 in FIG. 2. In step 180, the process 52 identifies all popular items that have been purchased by the user (from a particular shopping cart, if designated) or rated by the user, within the last six months. In step 182, the process retrieves the similar items lists 64 for these popular items from the similar items table 60.

Detailed Description Text - DETX (73):

In step 184, the process 52 weights each similar items list based on the duration since the associated popular item was purchased by the user (with recently-purchased items weighted more heavily), or if the popular item was not purchased, the rating given to the popular item by the user. The formula used to generate the weight values to apply to each similar items list is listed in C in Table 2. In this formula, "is_Purchased" is a boolean variable which indicates whether the popular item was purchased, "rating" is the rating value (1-5), if any, assigned to the popular item by the user, "order_date" is the date/time (measured in seconds since 1970) the popular item was purchased, "now" is the current date/time (measured in seconds since 1970), and "6 months" is six months in seconds.

Detailed Description Text - DETX (76):

The similar items lists 64 are weighted in step 184 by multiplying the CI values of the list by the corresponding weight value. For example, if the weight value for a given popular item is ten, and the similar items list 64 for the popular item is

Detailed Description Text - DETX (78):
the weighted similar items list would be:

Detailed Description Text - DETX (80):
The numerical values in the weighted similar items lists are referred to as "scores."

Detailed Description Text - DETX (81):
In step 186, the weighted similar items lists are merged (if multiple lists exist) to form a single list. During this step, the scores of like items are summed. For example, if a given other_item appears in three different similar items lists 64, the three scores (including any negative scores) are summed to produce a composite score.

Detailed Description Text - DETX (88):
The shopping cart recommendations service is preferably invoked automatically when the user displays the contents of a shopping cart that contains more than a threshold number (e.g., 1) of popular items. The service generates the recommendations based exclusively on the current contents of the shopping cart. As a result, the recommendations tend to be highly correlated to the user's current shopping interests. In other implementations, the recommendations may also be based on other items that are deemed to be of current interest to the user, such as items in the recent shopping cart contents of the user and/or items recently viewed by the user. Further, other indications of the user's current shopping interests

could be incorporated into the process. For example, any search terms typed into the site's search engine during the user's browsing session could be captured and used to perform content-based filtering of the recommended items list.

Detailed Description Text - DETX (89):

FIG. 7 illustrates the sequence of steps that are performed by the shopping cart recommendations service to generate a set of shopping-cart-based recommendations. In step 282, the similar items list for each popular item in the shopping cart is retrieved from the similar items table 60. The similar items list for one or more additional items that are deemed to be of current interest could also be retrieved during this step, such as the list for an item recently deleted from the shopping cart or recently viewed for an extended period of time.

Detailed Description Text - DETX (90):

In step 286, these similar items lists are merged while summing the commonality index (CI) values of like items. In step 288, the resulting list is sorted from highest-to-lowest score. In step 290, the list is filtered to remove any items that exist in the shopping cart or have been purchased or rated by the user. Finally, in step 294, the top M (e.g., 5) items of the list are returned as recommendations. The recommendations are preferably presented to the user on the same Web page (not shown) as the shopping cart contents.

Detailed Description Text - DETX (92):

The various uses of shopping cart contents to generate recommendations as described above can be applied to other types of recommendation systems, including content-based systems. For example, the current and/or past contents of a shopping cart can be used to generate

recommendations in a system in which mappings of items to lists of similar items are generated from a computer-based comparison of item contents. Methods for performing content-based similarity analyses of items are well known in the art, and are therefore not described herein.

Detailed Description Text - DETX (93):

Although this invention has been described in terms of certain preferred embodiments, other embodiments that are apparent to those of ordinary skill in the art are also within the scope of this invention. For example, although the embodiments described herein employ item lists, other programming methods for keeping track of and combining sets of similar items can be used. Accordingly, the scope of the present invention is intended to be defined only by reference to the appended claims.

Claims Text - CLTX (2):

a computer-readable medium embodying a non-user-specific data structure which maps items from the database to sets of similar items from the database; and

Claims Text - CLTX (5):

(b) for each item identified in step (a), accessing the non-user-specific data structure to identify a corresponding set of similar items, to thereby identify a plurality of sets of similar items;

Claims Text - CLTX (6):

(c) combining the sets of similar items identified in step (b) to generate a ranked set of similar items in which a similar item's ranking reflects whether that similar item appears within more than one of said sets; and

Claims Text - CLTX (7):

(d) presenting at least some of the items of the ranked set of similar items to the user as recommendations.

Claims Text - CLTX (12):

6. The system of claim 1, wherein the data structure maps items to similar items based at least upon correlations between purchases of items by users.

Claims Text - CLTX (13):

7. The system of claim 1, wherein the data structure maps items to similar items based at least upon a content-based similarity analysis of items.

Claims Text - CLTX (14):

8. The system of claim 1, wherein the sets of similar items in the data structure include similarity index values, each index value indicating a degree of similarity between a reference item and a similar item, and wherein step (c) comprises combining similarity index values of like items.

Claims Text - CLTX (15):

9. The system of claim 1, further comprising filtering out similar items identified in step (b) to remove items already purchased by the user.

Claims Text - CLTX (19):

(b) for each item identified in step (a), accessing a non-user-specific data structure which maps items to similar items to identify a corresponding set of similar items, to thereby identify multiple sets of similar items;

Claims Text - CLTX (20):

(c) combining the multiple sets of similar items to form a ranked set of similar items in which an item's ranking reflects whether

that item appears
within more than one of the multiple sets; and

Claims Text - CLTX (21):

(d) recommending at least some of the items of the
ranked set of similar
items to the user.

Claims Text - CLTX (23):

13. The method of claim 11, wherein step (b)
comprises accessing a data
structure that maps items to similar items based at least
upon correlations
between purchases of items by users.

Claims Text - CLTX (24):

14. The method of claim 11, wherein step (b)
comprises accessing a data
structure that maps items to similar items based at least
upon a content-based
similarity analysis of items.

Claims Text - CLTX (29):

(c) using the data structure to identify a second
plurality of items that
are similar to one or more of the first plurality of
items and

Claims Text - CLTX (38):

(d) using the data structure to identify a second
plurality of items that
are similar to one or more of the first plurality of
items; and

Claims Text - CLTX (39):

(e) selecting, from the second plurality of items, a
subset of items to
recommend to the user, wherein an item is selected based
in part on whether
that item is similar to more than one of the first
plurality of items.

Claims Text - CLTX (49):

using the plurality of items in the user's shopping

cart to generate a list of additional items that are predicted to be of interest to the user, wherein an additional item is selected for inclusion in the list based in-part upon whether that additional item is similar to more than one of the plurality of items in the user's shopping cart; and

Claims Text - CLTX (52):

(a) for each of the plurality of items, accessing a data structure which maps items to sets of similar items to identify a corresponding set of similar items; and

Claims Text - CLTX (53):

(b) combining the sets of similar items identified in (a) to generate a ranked set of items in which items are ranked according to similarity to the plurality of items in the shopping cart.

Claims Text - CLTX (54):

30. The method as in claim 29, wherein (b) comprises increasing a ranking of an item that is similar to more than one of the plurality of items in the shopping cart.

Claims Text - CLTX (55):

31. The method as in claim 28, wherein using the plurality of items to generate a list comprises determining whether an item is similar to more than one of the plurality of items in the shopping cart.

Current US Cross Reference Classification - CCXR (1):

705/27

US-PAT-NO: 5870717

DOCUMENT-IDENTIFIER: US 5870717 A

TITLE: System for ordering items over
computer network using an
electronic catalog

DATE-ISSUED: February 9, 1999

INVENTOR-INFORMATION:

NAME	CITY
STATE ZIP CODE COUNTRY	
Wiecha; Charles Francis	New York
NY N/A N/A	

US-CL-CURRENT: 705/26, 235/385

ABSTRACT:

Current corporate purchasing procedures are labor-intensive and therefore costly. The system enables an employee who needs an item which must be ordered from a supplier to select the item from an electronic catalog displayed on a personal computer and submit an order for approval and processing directly, by-passing both the normal paper approvals and the manual verification of the order by the organization's Purchasing department. It achieves this by means of an electronic catalog accessible from the employee's own personal computer, and a computer network and associated services linking the enterprise to one or more suppliers.

6 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 12

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Detailed Description Text - DETX (4):

2. The employee selects items from the catalogs preferably with a mouse or similar device. Catalog items may be displayed with pictures, descriptions and other information in a fashion similar to a paper catalog. Where similar items are available, a "Compare" icon can be selected on the screen, causing the items to be listed side by side, with differences highlighted. Items can be located by searching down the taxonomy tree of the catalog (much as one searches through a paper catalog by finding the appropriate general section and then looking for a particular item), or by entering a search word or phrase.

Detailed Description Text - DETX (63):

Search: Keyword, Power Search (Attribute, Taxonomy).

Detailed Description Text - DETX (65):

This uses code from the Folder Editor and Search Engine, with additional functions, to enable Operations staff to:

Detailed Description Text - DETX (133):

Based on index search.

Detailed Description Text - DETX (134):

Index search is launched with user's action on an icon represented by a magnifying glass.

Detailed Description Text - DETX (135):

Search by product type or manufacturer's name.

Detailed Description Text - DETX (200):

Search for specific groups of POs and purchase requests by Requester Name, Requester Date, and Request Number. The search results can be grouped into a chapter.

Current US Original Classification - CCOR (1):
705/26